

AMENDMENTS TO THE CLAIMS:

This listing of claims will replace all prior versions, and listings, of claims in the application:

Listing of Claims:

1. **(currently amended)** A spray coating method, comprising the step of ~~[[for]]~~ spraying ~~a coating liquids, whereby~~ coating liquid is ~~sprayed~~ from a spray system through a liquid atomizer in the form of an irrotational nozzle or in the form or a rotary atomizing element onto an object to be coated; and ~~[[,]]~~

~~characterized in that~~

cooling at least one component ~~[[4]]~~ of the spray system ~~[[2]]~~, where the coating liquid may deposit on said component and cure on it, ~~shall be cooled~~ by a fluid, cooled coolant that is fed to said component during said spraying ~~spray coating~~ in order that the cooling of ~~[[this]]~~ said component ~~[[4]]~~ shall reduce or prevent the adhesion and/or the drying rate and the layering of the coating liquid on a surface ~~[[24]]~~ of said component.

2. **(currently amended)** The Spraying method as claimed in claim 1, ~~characterized in that wherein~~ the coolant is fed to the liquid atomizer, which ~~in particular when latter~~ is a rotary atomizing element ~~[[4]]~~, in order to cool ~~[[a]]~~ the surface ~~[[24]]~~ ~~[[at]]~~ of said atomizer, where said surface is in ambient air and under the stream of the liquid coating liquid.

3. **(currently amended)** The Spraying method as claimed in claim 1, ~~characterized in that wherein~~ a compressed gas is gas, ~~preferably compressed air, is~~ used as the coolant.

4. **(currently amended)** The Spraying method as claimed in claim 3, ~~characterized in~~

~~that~~ wherein the compressed gas is blown onto a surface ~~[(22)]~~ of the component ~~[(4)]~~ to be cooled, where the coating liquid does not stream over said surface.

5. *(canceled)*

6. **(currently amended)** A spray system for spraying coating liquids, said system comprising

a liquid atomizer in the form of an irrotational nozzle or in the form of a rotating rotary atomizing element ~~[(4)]~~ for spraying a ~~to spray the~~ coating liquid onto an object to be coated; and ~~[(,)]~~

~~characterized by~~

84 a cooling unit ~~[(6)]~~ for cooling a component ~~[(4)]~~ of the spray system ~~[(2)]~~ by means of a fluid, cooled coolant during spray coating, where ~~the there is danger regarding said component (4)~~ that coating liquid may deposit and cure on ~~[(it)]~~ said component, the cooling of said component ~~[(4)]~~ reducing or preventing both the coating liquid's adhesion to and/or the drying rate on and its layering on a surface of ~~[(this)]~~ said component ~~[(4)]~~.

7. **(currently amended)** The Spray system as claimed in claim 6, ~~characterized in that~~ wherein the coolant is ~~[(can be)]~~ fed by the cooling unit ~~[(6)]~~ to the liquid atomizer ~~[(4)]~~, which ~~in particular when latter~~ is a rotary atomizing element, in order to cool an atomizer surface ~~[(24)]~~ which is situated in ambient air and underneath the streaming coating liquid.

8. **(currently amended)** The Spray system as claimed in claim 6, ~~characterized in that~~ wherein the coolant is ~~a compressed gas, preferably~~ compressed air.

9. **(currently amended)** The Spray system as claimed in claim 8, ~~characterized in that~~ wherein the cooling unit is fitted with a compressed-gas discharge ~~[(20)]~~ to blow cooled

compressed gas onto a surface $[(22)]$ of the component $[(4)]$ to be cooled, where the coating liquid does not stream over said surface.

10. **(currently amended)** ~~The Spray system as claimed in claim 6, characterized in that it comprises~~ further comprising a cooling element $[(10)]$ of the cooling unit $[(6)]$ to cool the coolant, where said element is configured at the spray system $[(2)]$ or is integrated into it.

11. **(new)** A method of spraying a coating liquid onto an object to be coated, said method comprising the steps of:

B4 providing a spray discharging system having an atomizer for atomizing said coating liquid, said atomizer having a rear end and a front end, said atomizer longitudinally extending from the rear end to the front end and towards the object, said atomizer having an external surface, an internal surface that defines an inner passage for the coating liquid, and an atomizing edge in the front end and at the boundary of the internal and external surfaces;

atomizing and spraying the coating liquid from the atomizing edge onto the object; and

cooling said atomizer during said atomizing and spraying step by a cooling medium deposited on the external surface of said atomizer.

12. **(new)** The method of claim 11, wherein said cooling step comprises indirectly cooling said atomizing edge by depositing said cooling medium on the external surface of said atomizer in a region other than a vicinity of said atomizing edge, thereby preventing or delaying precipitation of the coating liquid on the external surface in the vicinity of said atomizing edge during said atomizing and spraying step.

13. **(new)** The method of claim 11, wherein said cooling step comprises depositing the cooling medium on the rear end of said atomizer in a region rearwardly, longitudinally spaced from said atomizing edge.

14. (new) The method of claim 11, wherein said cooling step comprises depositing the cooling medium on the external surface of said atomizer in a region that is not accessible to by the coating liquid during said atomizing and spraying.

15. (new) The method of claim 11, wherein said coating liquid is water-based paint.

16. (new) The method of claim 11, wherein said atomizer is a rotary, bell-shaped atomizing element having a front end flared towards the object, and said cooling medium is deposited in a vicinity of a rear portion of said flared, front end of the atomizing element.

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17. (new) The method of claim 11, wherein said cooling medium is a compressed gas; said me further comprising providing a cooling element and cooling the compressed gas prior to depositing said compressed gas onto the external surface of said atomizer.

18. (new) The method of claim 11, wherein said cooling medium is compressed air.

19. (new) A spray system for coating an object with a coating liquid, said system comprising:

a liquid atomizer for atomizing and spraying the coating liquid onto the object, said atomizer having longitudinally spaced rear and front end portions, said atomizer having an external surface, an internal surface that defines an inner passage for the coating liquid, and an atomizing edge in the front end portion and at the boundary of the internal and external surfaces from which edge the coating liquid is to be dispensed as a spray;

a cooling unit having a coolant line fitted with at least one cooling medium outlet pointing at the rear end portion of said atomizer in order to deposit a cooling medium onto the external surface of said atomizer, thereby preventing or delaying precipitation of the coating liquid on said

external surface in a vicinity of said atomizing edge.

20. **(new)** The system of claim 19, wherein
the cooling medium outlet of said cooling unit is rearwardly, longitudinally spaced from
said vicinity of said atomizing edge; and
the coolant line is located outside said inner passage.

B4 21. **(new)** The system of claim 19, further comprising said cooling medium, which is a
compressed gas, wherein said cooling unit includes
a blower for blowing said compressed gas onto said atomizer;
a gas reservoir; and
a cooling element for receiving the compressed gas from said gas reservoir, cooling said
compressed gas and delivering said cooled, compressed gas to said blower.

22. **(new)** The system of claim 19, wherein further comprising said cooling medium
which is compressed air.

23. **(new)** The system of claim 19, wherein said cooling medium outlet includes at least
one polygonal apertures or slit nozzles.

24. **(new)** The method as claimed in claim 1, wherein the coolant is cooled by a
cooling element (10) situated at or in the spray system (2).